AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended). A fusion ~~molecule~~ protein, which comprises an antigen, a transmembrane region, and ~~the~~ a cytoplasmic region of a chain of an MHC molecule.

Claim 2 (currently amended). The fusion ~~molecule as claimed in~~ protein of claim 1, ~~where~~ wherein the fusion ~~molecule~~ protein ~~comprises no~~ is free from a binding domain of ~~a chain of~~ an MHC molecule.

Claim 3 (currently amended). The fusion ~~molecule as claimed in~~ protein of claim 1 ~~or 2~~, ~~where~~ wherein the transmembrane region is derived from an MHC molecule.

Claim 4 (currently amended). The fusion ~~molecule as claimed in any of claims 1 to 3~~ protein of claim 1, ~~where~~ wherein the transmembrane region and the cytoplasmic region are derived from the same MHC molecule and together comprise a sequence in which ~~corresponds to~~ the transmembrane region is connected to the cytoplasmic region ~~of an MHC molecule~~.

Claim 5 (currently amended). The fusion ~~molecule as claimed in any of claims 1 to 4~~ protein of claim 1, ~~where~~ wherein the fusion ~~molecule~~ protein additionally comprises a leader sequence.

Claim 6 (currently amended). The fusion ~~molecule as claimed in~~ protein of claim 5, ~~where~~ wherein the leader sequence is derived from an MHC molecule.

Claim 7 (currently amended). The fusion ~~molecule as claimed in~~ protein of claim 5 ~~or 6~~, ~~where~~ wherein the fusion ~~molecule~~ protein has the following arrangement of segments: N terminus - leader sequence/antigen/ transmembrane region/cytoplasmic region - C terminus, ~~where~~ and the individual ~~regions~~ segments ~~may~~ optionally ~~be~~ are separated from one another by linker sequences.

Claim 8 (currently amended). The fusion ~~molecule as claimed in any of claims 1 to 7~~ protein of claim 1, ~~where~~ wherein the antigen portion thereof comprises a plurality of antigens.

Claim 9 (currently amended). A nucleic acid which codes for a fusion ~~molecule as claimed in any of claims 1 to 8~~ protein of claim 1.

Claim 10 (original). A host cell which comprises a nucleic acid as claimed in claim 9.

Claim 11 (currently amended). A pharmaceutical composition which comprises one or more fusion ~~molecules as claimed in any of claims 1 to 8 and/or one or more nucleic acids as claimed in claim 9 and/or one or more host cells as claimed in claim 10~~ proteins of claim 1 in a pharmaceutically acceptable carrier.

Claims 12-18 (cancelled).

Claim 19 (new). A pharmaceutical composition which comprises at least one nucleic acid of claim 9 in a pharmaceutically acceptable carrier.

Claim 20 (new). A pharmaceutical composition which comprises at least one host cell of claim 10 in a pharmaceutically acceptable carrier.

Claim 21 (new). A method of inducing the formation of MHC/antigen peptide complexes in a cell, the method comprising contacting the cell with at least one fusion protein of claim 1.

Claim 22 (new). A method for inducing the formation of MHC/antigen peptide complexes in a cell, the method comprising contacting the cell with at least one nucleic acid of claim 9.

Claim 23 (new). A method for inducing the formation of MHC/antigen peptide complexes in a cell, the method comprising contacting the cell with at least one host cell of claim 10.

Claim 24 (new). A method of inducing presentation of MHC/antigen peptide complexes on the surface of antigen presenting cells, the method comprising contacting antigen presenting cells with at least one fusion protein of claim 1.

Claim 25 (new). A method of activating T cells toward a specific antigen comprising contacting the T cells with antigen presenting cells that have been previously treated with at least one fusion protein of claim 1, wherein the antigen portion of the fusion protein comprises the specific antigen.

Claim 26 (new). A method of stimulating or activating T cells against a specific antigen, the method comprising contacting T cells with at least one fusion protein of claim 1, wherein the antigen portion of the fusion protein comprises the specific antigen.

Claim 27 (new). A method of inducing an immune response to a specific antigen in a living organism, the method comprising administering to the living organism at least one fusion protein of claim 1, wherein the antigen portion of the fusion protein comprises the specific antigen.

Claim 28 (new). A method of treating or immunizing a living organism suffering from or at risk of developing a target disease, the method comprising administering at least one fusion protein of claim 1 to the living organism, wherein the antigen portion of the fusion protein comprises an antigen associated with the target disease.

Claim 29 (new). The method of claim 28 wherein the target disease is hepatitis A, hepatitis B, hepatitis C, HIV, mycobacteria, malaria, SARS, herpes, influenza, polio, chlamydia, and a mycobacterial infection.

Claim 30 (new). The method of claim 28 wherein the target disease is a tumor.

Claim 31 (new). The fusion protein of claim 1 wherein the antigen is a tumor antigen.

Claim 32 (new). The fusion protein of claim 31 wherein the tumor antigen is selected from the group consisting of carcinoembryonic antigen, α1-fetoprotein, isoferritin, fetal sulfoglycoprotein, α2-H-ferroprotein, and γ-fetoprotein.

Claim 33 (new). The fusion protein of claim 1 wherein the antigen is a viral antigen.

Claim 34 (new). The fusion protein of claim 33 wherein the viral antigen is selected from the group consisting of a viral ribonucleoprotein and a viral envelope protein.

Claim 35 (new). The fusion protein of claim 4 wherein the transmembrane region and the cytoplasmic region together comprise an amino acid residue sequence selected from the group consisting of SEQ ID NO: 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41.

Claim 36 (new). The fusion protein of claim 1 wherein the cytoplasmic region comprises an amino acid residue sequence selected from the group consisting of SEQ ID NO: 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42.

Claim 37 (new). The fusion protein of claim 1 wherein the fusion protein has the amino acid residue sequence of SEQ ID NO: 12 or SEQ ID NO: 14.

Claim 38 (new). The fusion protein of claim 1 wherein the antigen is selected from the group consisting of ART-4, BAGE, ss catenin/m, Bcr-abL CAMEL, CAP-1, CASP-8, CDC27/m, CDK4/m, CEA, claudin-12, c-MYC, CT, Cyp-B, DAM, ELF2M, ETV6-AML1, G250, GAGE, GnT-V, Gap100, HAGE, HER-2/neu, HPV-E7, HPV-E6, HAST-2, hTERT, hTRT, LAGE,

LDLR/FUT, MAGE-A, MAGE-A1, MAGE-A2, MAGE-A3, MAGE-A4, MAGE-A5, MAGE-A6, MAGE-A7, MAGE-A8, MAGE-A9, MAGE-A10, MAGE-A11, MAGE-A12, MAGE-B, MAGE-C, MART-1/melan-A, MC1R, myosin/m, MUC1, MUM-1, MUM-2, MUM-3, NA88-A, NF1, NY-ESO-1, NY-BR-1, p190 minor bcr-abL Pml/RARa, PRAME, proteinase-3, PSA, PSM, RAGE, RU1 or RU2, SAGE, SART-1 or SART-3, SCGB3A2, SCP1, SCP2, SCP3, SSX, survivin, TEL/AML1, TPI/m, TRP-1, TRP-2, TRP-2/INT2, TPTE, and WT.

Claim 39 (new). The nucleic acid of claim 9 wherein the nucleic acid encodes an amino acid residue sequence selected from the group consisting of SEQ ID NO: 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41.

Claim 40 (new). The nucleic acid of claim 9 wherein the nucleic acid encodes an amino acid residue sequence selected from the group consisting of SEQ ID NO: 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42.

Claim 41 (new). The nucleic acid of claim 9 wherein the nucleic acid comprises the nucleotide sequence of SEQ ID NO: 11 or SEQ ID NO: 13.